

Research Note 81-04

SOCIAL AND PSYCHOLOGICAL DIFFERENTIALS
IN COMBAT SURVIVAL

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FOREWORD

In the Army's continuing effort to understand and improve military personnel accessioning and classification mechanisms, a relevant question is whether there are any predictors among sociological, organizational, and personal characteristics data which may relate to becoming a casualty in military conflict. In this report, casualties from one state (Illinois) in connection with the Vietnam conflict in the period 1961 through 1973 were analyzed in relation to military participation and individual attributes.

This research was supported by the ARI Basic Research program. The report is being placed in the research data base at this time for purposes of documenting the research effort.



SOCIAL AND PSYCHOLOGICAL DIFFERENTIALS IN COMBAT SURVIVAL

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SOCIAL AND PSYCHOLOGICAL DIFFERENTIALS IN COMBAT SURVIVAL

INTRODUCTION

The purpose of this project was to study the characteristics of fatal casualties in the Vietnam Conflict in relation to military participation and individual attributes. Thus casualties as the dependent variable were considered in relation to the socioeconomic characteristics of the ecological areas from which they entered the service, and the organizational criteria that affected their assignments to the positions in which they became casualties. The ecological area was defined as the spatial jurisdiction of the local board of the Selective Service System with which the casualty or survivor sample would have registered. The organizational criteria considered were the AFQT, aptitude test, and aptitude area scores.

METHOD

All men who had been identified as "fatal casualties in Southeast Asia in connection with the hostilities in Vietnam" between 1961 and 1973, and whose homes of record were officially indicated as in Illinois at the time of death, were selected for study. The total number of casualties thus included was 3,047 (Army, 1,962; Marine Corps, 847; Navy, 130; and Air Force, 108). The home addresses at the time of entry were obtained from the Illinois State Department of Veterans' Affairs.

Specific records of the 1,962 Army casualties were requested from the Army Reference Branch, Federal Records Center: DD Form 1300, Report of Casualty; DA Form 20, Enlisted Qualification Record or DA Form 66, Officer's Qualification Record; DD Form 1, Report of Induction or DA Form 4, Report of Enlistment. Also requested was the initial order from the AFEES (Armed Forces Examining and Entry Station) assigning the entrant to his basic training station. The records of 1,851 men were obtained; the records of the remaining 109 could not be located.

Using the AFEES special order assigning entrants to their basic or initial duty assignments, a 50% sample was then drawn of men who were enlisted or inducted on the same day as the casualties, by selecting the "next man" on the list (which was compiled daily at the AFEES in the sequence in which men completed "processing"). The same records as obtained for the casualties were then requested for 930 members of this cohort and were received for 818 men. The remaining records could not be located or were excluded from the control group because they were actually residents of Indiana or Missouri who had entered service at the same AFEES as Illinois residents. Only one member of the control group had also been a casualty.

On the basis of the street address of the home of record at the time of entry, each casualty from the Chicago Standard Metropolitan Statistical Area (SMSA) was allocated to a census tract and a local board of the Selective Service System. Outside the SMSA, casualties were allocated to counties and their corresponding local board. The socioeconomic characteristics of the

census tract or county were attributed to all casualties within those areas. Since the original board assignment of a registrant was permanent, the local board was defined as the ecological unit of analysis. All census tracts were then aggregated by local board, and the socioeconomic description of each local board area was determined as the median of all census tracts within each board area.

Next, a survey was made of the "registers" of over half of all the local boards in Illinois (120 of 217), including all of those in the Chicago SMSA. The registers constitute the only record of military participation within a defined geographical area. Information was extracted indicating the military service experience of all registrants for the year of birth cohort, 1942 through 1952, an interval that included over 97% of the casualties and all of the survivors. For comparative purposes, similar information was obtained from a sample of rural boards distributed randomly in the state. Since tract data were not available for rural boards, county population characteristics were used as a basis of comparison with the SMSA boards. The local board survey included 106 boards of the Chicago SMSA (City of Chicago, 80; DuPage County, 2; Kane County, 2; Lake County, 2; McHenry County, 1; Will County, 2) and 13 rural boards.

Thus, the experience of a single state-- Illinois--has been taken as representative of the impact of national military manpower policies. There is no reason to believe that such policies would differ significantly in other states, and there are important reasons for using a single state. Previous studies, using survey data from national samples, provided little information on how such policies were experienced at the community level. Illinois is unique in having at least one local board of the Selective Service System in each of 102 counties and 80 in the City of Chicago. Thus, each local board is more homogeneous in social and cultural characteristics and more compatible with census data than in states where local board areas represent two or more counties.

Our method and data are designed to study the following factors:

1. The relationships between socioeconomic status (as measured by median family income of local board areas and census tracts), military participation, organizational criteria (such as AFQT and aptitude test scores), and assignment to military occupations with differing degrees of exposure to mortality.
2. The relationship between socioeconomic status and fatal casualties.
3. The relationship between organizational criteria and fatal casualties.

FINDINGS

Socioeconomic Status and Participation

The average participation rate (percentage of registrants with military service) for all local boards, sorted by median family income of constituent census tracts, was 30.4% (Table 1). Board areas with median family incomes of \$3,000 through \$6,000 and \$14,000 through \$25,000 fell below the mean. The modal participation rate was 33.8% for boards with a median family income

of \$10,000. The mean induction rate was 10.2%. Only two low income boards fell below this mean (\$3,000 and \$4,000), but all board areas of \$13,000 and higher income were below the mean. The overall participation rate was three times as high as the induction rate.

Table 1
Participation and Induction Rates by Median Family Income

Median family income	Participation			Participation rate ¹	Induction rate ²
	Registrants	Participants	Inductions		
\$ 3,000	1,814	405	142	22.3	7.8
\$ 4,000	2,334	568	184	24.3	7.9
\$ 5,000	13,666	3,956	1,494	28.9	10.9
\$ 6,000	19,329	5,617	2,135	29.0	11.0
\$ 7,000	21,293	6,828	2,723	32.1	12.8
\$ 8,000	44,185	14,247	5,704	32.2	12.9
\$ 9,000	25,379	7,803	2,965	30.7	11.7
\$10,000	63,825	21,567	7,541	33.8	11.8
\$11,000	111,974	33,773	11,433	30.2	10.2
\$12,000	94,703	31,006	10,018	32.7	10.6
\$13,000	71,906	22,639	6,966	31.5	9.7
\$14,000	53,311	14,976	3,958	28.1	7.4
\$15,000	24,966	5,117	1,333	20.5	5.3
\$16,000	7,493	1,106	232	14.8	3.1
\$25,000 ³	3,436	301	48	8.8	1.4
Totals	559,614	169,909	56,876	30.4	10.2

¹Participation rate = percent of registrants with military service who were born in the years 1942 through 1952.

²Induction rate = percent of registrants of year-of-birth groups 1942-1952 who were inducted. The basic classification of the Local Board Register is the year-of-birth group rather than the year of registration. Thus, all registrants were classified by age group, and within age groups by day and month of birth, except for late registrants who were added to the end of the Register for each age group. The year of registration is determined by adding 18 to the year of birth. Thus, all registrants in the age groups 1942 through 1952 were eligible for service between 1960 and 1970.

³The discrepancy in the class interval for the final median family income group is an anomaly of the median. This board area consisted of the two most affluent suburbs of Cook County: Winnetka and Glencoe.

A factor affecting the participation rates by socioeconomic status (as measured by median family income of place of residence) were the differential

rejection rates for mental and physical (or medical) factors. While mental failures were inversely related to socioeconomic status, rejections for physical or medical factors were directly associated with increasing income. The highest mental rejection rates were in board areas with median family incomes of \$7,000 and lower, and the lowest mental rejection rates were from board areas with median family incomes of \$13,000 to \$25,000. Conversely, the lowest medical rejection rates were from low income board areas of from \$3,000 to \$6,000; and the highest from board areas of from \$15,000 to \$23,000 (Table 2).

Table 2
Qualification and Disqualification Rates of Local Boards
by Median Family Income, 1965 and 1967

Median family income	Percent qualified		Percent rejected, by cause ¹			
			Mental	Physical	Mental	Physical
	1965	1967	1965	1965	1967	1967
\$ 3,000	35.8	53.2	47.5	8.9	26.2	15.9
\$ 4,000	49.5	50.0	30.3	19.2	31.6	15.8
\$ 5,000	38.9	51.7	43.6	10.1	28.2	14.4
\$ 6,000	37.6	48.0	43.7	10.4	31.1	14.3
\$ 7,000	43.1	53.8	36.9	13.1	22.9	18.5
\$ 8,000	55.3	57.2	23.3	15.9	17.2	22.2
\$ 9,000	56.5	53.2	19.9	17.7	18.3	25.9
\$10,000	64.2	61.5	12.1	19.1	8.1	27.5
\$11,000	64.0	59.7	7.1	20.7	4.3	29.4
\$12,000	56.7	53.7	7.3	15.5	2.5	25.2
\$13,000	51.3	47.8	4.3	16.2	1.6	24.5
\$14,000	70.7	66.6	5.6	19.7	2.4	30.5
\$15,000	66.9	53.6	3.6	26.4	1.2	44.0
\$16,000	62.3	47.0	4.2	29.8	0.6	51.2
\$25,000	53.5	62.6	0.9	39.6	1.7	33.9
Means	53.8	54.5	19.3	18.8	13.2	26.5

¹"Moral" and "Mental and Physical" rejections were omitted for brevity due to negligible numbers.

Socioeconomic Status and Casualty Rates

The mean casualty rate for 1,000 registrants was 2.6. The lowest board area (\$3,000) was below the mean (1.6), and the second lowest (\$4,000) at the mean, and all of the board areas above \$14,000 were below the mean of casualties per 1,000 registrants. The mean casualty rate for 1,000 participants was 10.0. Again, the board area with the lowest median family income was below the mean and all of the board areas over \$10,000 were below the mean except the board area with the highest median family income (\$25,000) which had both

the lowest rate in relation to registrants and the highest in relation to participants (Table 3).

Table 3
Casualty Rates by Number of Registrants and Participants,
and Median Family Income of Local Board Areas

Median family income	Registrants	Participants	Casualties	Casualties/ registrants ¹	Casualties/ participants ²
\$ 3,000	1,814	405	3	1.6	7.4
\$ 4,000	2,334	568	6	2.6	10.6
\$ 5,000	13,666	3,956	42	3.1	10.6
\$ 6,000	19,329	5,617	59	3.1	10.5
\$ 7,000	21,293	6,828	68	3.2	10.1
\$ 8,000	44,185	14,247	153	3.5	10.7
\$ 9,000	25,379	7,803	84	3.3	10.8
\$10,000	63,825	21,567	187	2.9	8.7
\$11,000	111,974	33,773	263	2.3	7.8
\$12,000	94,703	31,006	291	3.1	9.4
\$13,000	71,906	22,639	222	3.1	9.8
\$14,000	53,311	14,976	121	2.3	8.1
\$15,000	24,966	5,117	44	1.8	8.6
\$16,000	7,493	1,106	11	1.5	9.9
\$25,000	3,436	301	5	1.5	16.6
Totals/ Means	559,614	169,909	1,559	2.6	10.0

¹Casualty rate per 1,000 registrants.

²Casualty rate per 1,000 participants.

Organizational Criteria and Casualties

The principal organizational criterion of acceptability for service was the AFQT score. In addition to determining the level of acceptability, the percentile score was used to allocate all entrants to mental groups which indicate relative degrees of ability to perform military tasks. Thus, the specific score for each entrant might determine subsequent assignments without reference to other criteria. Table 4 compares AFQT Mental Group Classification with median family income.

To test the relationship between socioeconomic status and military occupations, all casualties were allocated to three categories of proximity to risk as (1) high risk (infantrymen, combat leaders, and air crew); (2) moderate risk (direct combat support and indirect combat); and (3) low risk

Table 4

AFQT Mental Group by Median Family Income (Army Casualties and Survivors from the Chicago SMSA)

Median family income	AFQT Mental Group, N (%)				
	I	II	III-A	III-B	IV
\$ 1,000 - 3,999	--	1 (0.3)	1 (0.6)	1 (0.5)	1 (0.4)
\$ 4,000 - 6,999	--	7 (2.2)	10 (5.5)	15 (7.6)	57 (23.4)
\$ 7,000 - 9,999	5 (9.1)	41 (12.9)	31 (17.1)	48 (24.4)	68 (27.9)
\$10,000 - 12,999	27 (49.1)	149 (47.0)	84 (46.4)	87 (44.2)	99 (40.6)
\$13,000 - 15,999	18 (32.7)	94 (29.7)	48 (26.5)	40 (20.3)	12 (4.9)
\$16,000 - 18,999	5 (9.1)	19 (6.0)	6 (3.3)	3 (1.5)	6 (2.5)
\$19,000 - 21,999	--	4 (1.3)	1 (0.6)	1 (0.5)	1 (0.4)
\$22,000 - 24,999	--	1 (0.3)	--	1 (0.5)	--
\$25,000 - 27,999	--	1 (0.3)	--	1 (0.5)	--
Totals	55 (5.5)	317 (31.9)	181 (18.2)	197 (19.8)	244 (24.5)
					994 (100)

Chi square = 169, 32 degrees of freedom, significance: 0.001.

Pearson's R = 0.3, significance: 0.001.

(clerical, supply, technicians, and mechanics). The differences between these categories and median family income were not statistically significant (Table 5). The modal percentage for all levels of risk was a median family income of \$10,000 to \$12,999. Slightly more men from low income areas (\$1,000-\$9,999) were assigned to low risk positions (27.5) than to high risk positions (27.1). About the same percentage of men from high income areas (\$19,000 to \$34,000) were assigned to high risk positions (1.5) as to low risk positions (1.7).

Table 5

Military Occupation by Median Family Income (Army Casualties and Survivors from the Chicago SMSA)

Median family income	Military occupations, N (%)			
	High risk ¹	Moderate risk ²	Low risk ³	Total
\$ 1,000 - 3,999	3 (0.4)	3 (1.3)	1 (0.2)	7 (0.5)
\$ 4,000 - 6,999	70 (9.1)	23 (10.1)	47 (10.4)	140 (9.7)
\$ 7,000 - 9,999	135 (17.6)	43 (18.9)	76 (16.9)	254 (17.6)
\$10,000 - 12,999	359 (46.9)	101 (44.5)	196 (43.6)	656 (45.5)
\$13,000 - 15,999	158 (20.6)	47 (20.7)	98 (21.8)	303 (21.0)
\$16,000 - 18,999	29 (3.8)	9 (4.0)	24 (5.3)	62 (4.3)
\$19,000 - 21,999	8 (1.0)	1 (0.4)	5 (1.1)	14 (0.9)
\$22,000 - 24,999	2 (0.3)	--	1 (0.2)	3 (0.2)
\$25,000 - 27,999	1 (0.1)	--	2 (0.4)	3 (0.2)
\$31,000 - 34,999	1 (0.1)	--	--	1 (0.1)
Totals	766 (53.1)	227 (15.7)	450 (31.2)	1,443 (100.0)

¹Direct combat: infantrymen, combat leaders, and air crew.

²Indirect combat and direct combat support.

³Supply and clerical, technicians and mechanics.

Casualties and Survivors

Thus far, casualties and survivors have been considered as a homogeneous population or sample of all participants with known personal characteristics, and in terms of the effects of such exogenous factors as median family income. However, endogenous criteria also operated to determine that a given cohort of entrants was placed in positions of risk where death might occur.

The control group of 825 "survivors" who were matched with the casualties for entry date differed from the casualties in at least one important respect: Although all of the casualties had been assigned to Vietnam, only half of the survivors were. Thus, it may be assumed that there would be greater homogeneity

between casualties and the "Vietnam survivors" than between the casualties and "other survivors" who were assigned to Europe, Alaska, Korea, or CONUS.

Chi square tests of the AFQT scores and of all of the aptitude tests and aptitude area scores do indicate that the Vietnam survivors were more like the casualties in terms of organizational criteria, and differed significantly from "other survivors" (Table 6). Hence, the same organizational criteria that had resulted in the assignment of the casualties to Vietnam had also operated in the assignment of the Vietnam survivors. The most statistically significant differences between casualties and all survivors were on the Classification Inventory and the Infantry Aptitude area scores. The difference between the mean AFQT scores of casualties (69.4) and of Vietnam survivors (69.2) was not statistically significant. (The scores on the Classification Inventory and Infantry Aptitude area were available on a much larger population of casualties (1,733) than the AFQT (898).) The high degree of significance (greater than .001) of the Infantry Aptitude area score indicates that it was a more important criterion for assignment to high risk military occupations than the AFQT, which was more closely associated with socioeconomic status. The application of this universalistic criterion score as a selector for infantry replacements thus had the effect of minimizing the effects of social origins in the assignment process.

Organizational Criteria and Tour Duration

A final criterion of the effectiveness of the organizational criteria of intelligence and aptitude tests was the duration of the tour in Vietnam and exposure to combat. From a theoretical perspective, men with higher aptitudes should "learn" more quickly, thus enhancing their chances of survival. Previous studies (Battelle) have indicated that the period of exposure follows a pattern of the "learning curve" with many deaths in the first month of exposure and then diminishing numbers as combat troops become socialized to their combat roles. However, neither the AFQT nor any of the aptitude tests indicated a significant relationship between scores and tour duration even though there are some apparent differences by inspection of the array of AFQT scores by tour duration (Table 7).

Almost twice as many of the Mental Group I men were killed in the first month of combat (20.8%) as those in Mental Group IV (11.6%). In the second month, 13% of the Group I men were killed compared to 8.9% of Group IV. In the third month, only 7.5% of Group I were killed, about half of that for the other mental groups. Again in the fourth month, Group I casualties differ from the other groups: 15% as compared to 11.6% for Group IIIA and 10% for Group IV. The modal number of casualties for the other mental groups occurred in the third month for Groups II, III-A, and III-B, and the sixth month for Group IV.

Although the mean Infantry Aptitude score for casualties was higher (103) than for survivors (101), the difference was not statistically significant, and there was no relationship to tour duration.

The classification of casualties as "battle" and non-battle," or "hostile" and "other causes" often failed to indicate accurately the circumstances of death. Thus, of the 61 men who were killed by "friendly fire," 30 were

Table 6

Summary of Significance (Chi Square) of Differences in Aptitude
Test and Aptitude Area Scores of Casualties, Vietnam
Survivors, and Other Survivors

Test or aptitude area	Casualties ¹ vs. other survivors ²		Casualties ¹ vs. Vietnam survivors ³	
	Chi square	Significance	Chi square	Significance
VE	21.6	.003	21.9	.0026
AR	15.9	.026	10.1	.2
SM	9.6	.21	2.6	.9
PA	8.1	.32	3.8	.8
AC	10.2	.18	6.6	.5
AI	8.8	.2	5.7	.6
MA	6.9	.4	2.8	.9
ELT	4.8	.7	3.1	.9
GIT	12.3	.09	3.8	.8
CI	49.9	.001	14.7	.4
INA	45.8	.001	16.4	.02
AE	6.5	.5	7.1	.4
ELA	6.1	.5	9.1	.2
GM	8.0	.3	7.8	.4
MM	6.1	.5	7.3	.4
CL	18.9	.01	10.4	.2
GTA	16.1	.02	11.4	.1

¹Casualties: N = 1,733.

²Other survivors: N = 422.

³Vietnam survivors: N = 433.

Table 7
Tour Duration of Casualties by Mental Group

Months in combat	AFQT Mental Group, N(%)					Total
	I	II	III-A	III-B	IV	
0-1	11 (20.8)	35 (12.0)	20 (11.6)	25 (13.1)	22 (11.6)	113 (12.6)
2	7 (13.2)	25 (8.6)	16 (9.2)	19 (9.9)	17 (8.9)	84 (9.4)
3	4 (7.5)	44 (15.1)	23 (13.3)	29 (15.2)	26 (13.7)	126 (12.6)
4	8 (15.1)	25 (8.6)	20 (11.6)	19 (9.9)	19 (10.0)	91 (10.1)
5	4 (7.5)	41 (14.1)	8 (4.6)	16 (8.4)	19 (10.0)	88 (9.8)
6	4 (7.5)	21 (7.2)	18 (10.4)	21 (11.0)	28 (14.7)	92 (10.2)
7	3 (5.7)	24 (8.2)	16 (9.2)	9 (4.7)	15 (7.9)	67 (7.5)
8	3 (5.7)	23 (7.9)	14 (8.1)	14 (7.3)	13 (6.8)	67 (7.5)
9	3 (5.7)	16 (5.5)	15 (8.7)	9 (4.7)	7 (3.7)	50 (5.6)
10	3 (5.7)	21 (7.2)	16 (9.2)	16 (8.4)	14 (7.4)	70 (7.8)
11	1 (1.9)	8 (2.7)	4 (2.3)	6 (3.1)	5 (2.6)	24 (2.7)
12	1 (1.9)	3 (1.0)	1 (0.6)	6 (3.1)	4 (2.1)	15 (1.7)
13 or more	1 (1.9)	5 (1.7)	2 (1.2)	2 (1.0)	1 (0.5)	11 (1.2)
Totals	53 (5.9)	291 (32.4)	173 (19.3)	191 (21.2)	190 (21.2)	898 (100)
Mean months before death	4.5	5.4	5.9	5.2	5.6	5.4

classified as "non-battle." Similarly, accidental deaths were sometimes attributed to hostile action and at other times to "other causes." Consequently, we reclassified all fatalities in terms of the relationship of the death to combat conditions as (1) direct combat: killed in action, died of wounds, or killed or died of wounds from friendly fire; (2) combat related: i.e., accidents and collisions, burns or explosions; and (3) noncombat (self-destruction, disease, drowning, and other deaths not in the combat context) (Table 8).

Table 8

Death Classification by Months in Vietnam Before Death

Death classification	Months in Vietnam before death, N (%)					Total
	1 to 3	4 to 6	7 to 9	10 to 12	13 or more	
Direct combat	518 (82)	467 (81)	303 (83)	158 (67)	26 (70)	1,474
Killed in action	139 (22)	153 (27)	106 (29)	55 (23)	9 (24)	462
Friendly fire	20 (3)	17 (3)	18 (5)	5 (2)	1 (3)	61
Combat related	79 (13)	72 (13)	47 (13)	47 (20)	8 (22)	253
Accident, collision	39 (6)	40 (7)	25 (7)	30 (13)	0	134
Burns, explosions	21 (3)	13 (2)	10 (3)	8 (3)	3 (8)	55
Other	19 (3)	19 (3)	12 (3)	9 (4)	5 (14)	64
Noncombat	35 (5)	35 (5)	15 (4)	31 (13)	3 (8)	119
Totals	632 (100)	574 (100)	365 (100)	236 (100)	37 (100)	1,844

The relative proportion of deaths in the three categories of relationship to combat remained relatively stable during the first 9 months of the Vietnam tour. In the last 3 months, however, there was a decrease in the percentage of deaths from direct combat, and an increase in the percentage of deaths from combat-related causes and noncombat.

Table 9 presents the cumulative number and percentage of all casualties by months in Vietnam before death.

Thus, of the original cohort of 1,844 potential casualties at the time of arrival in Vietnam, only 15% survived into the tenth month. Over half (55.1%) had been killed by the fifth month, and two-thirds (65.1%) by the midpoint of their tours.

Table 9

Illinois Army Casualties by Months in Vietnam Before Death

Months before death	Casualties			
	Number	Cumulative number	Percent	Cumulative percent
0-1	234	234	12.7	12.7
2	185	419	10.0	22.7
3	214	633	11.6	34.3
4	200	833	10.8	45.1
5	184	1,017	10.0	55.1
6	193	1,210	10.5	65.6
7	146	1,356	7.9	73.5
8	110	1,466	6.0	79.5
9	111	1,577	6.0	85.5
10	145	1,722	7.9	93.4
11	63	1,785	3.4	96.8
12	30	1,815	1.6	98.4
13 or more	29	1,844	1.6	100.0

SUMMARY

This report has presented findings of a study of military participation and casualties based on the experience of Illinois men during the Vietnam Conflict. The local board registers of the Selective Service System were used as the source of data on military participation. The local boards were then classified by the median family income of the constituent census tracts to provide a measure of socioeconomic status. The records of 1,844 Army casualties were matched with data from 835 survivors who had entered service at the same time. Casualties from the other services were also allocated to census tracts and local board areas, based on their home addresses at the time of service entry or the local board with which they were registered.

Participation during the Vietnam Conflict was distributed relatively equitably. Neither the lowest nor the highest areas, classified by median family income, had as high participation rates as middle income areas. Rejection rates for medical factors increased with income level and were significantly higher than in low income areas, while mental rejection rates were highest in low income areas and declined with increasing income.

The casualty rate in proportion to the number of registrants is more statistically identifiable with socioeconomic status than the casualty rate in proportion to the number of participants. The lowest casualty rate per 1,000 participants was in the lowest income board, and the highest rate in the highest income board. Except for these two extremes, the range of the casualty rate per 1,000 participants is only 3 (from 7.8 to 10.8).

Statistically, organizational criteria such as the AFQT were related to median family income, but that criterion did not affect the assignment of personnel to military occupations in relation to median family income.

Statistically, neither the AFQT nor any of the aptitude tests or aptitude area scores seem to be related to the number of months in Vietnam before death. The median (months in Vietnam) for mental group I was lower than the other mental groups. The highest percentage of any mental group killed in 1 month was that of Mental Group I in the first month (20.8%). Two thirds of all casualties had been killed before the midpoint of their tours.

Based on the data assembled/compared in this research effort, it does not appear possible to predict the incidence of casualties on the basis of socioeconomic status or the measures used in the classification and assignment process. It is probable that other factors were more important, such as the unique conditions of warfare and tactical operations in Vietnam.

APPENDIX

CHARACTERISTICS OF THE SAMPLE

	<u>Casualties</u>	<u>Survivors</u>
Component		
AUS (inducted)	959 (52%)	576 (65%)
Regular Army	717 (39%)	268 (30%)
U.S. Army Reserve	181 (9%)	37 (4%)
Status		
Enlisted only (E-1 to 3)	682 (35%)	182 (21%)
Enlisted Specialists	631 (32%)	578 (65%)
NCO's	424 (22%)	106 (12%)
Warrant Officers	69 (4%)	5 (1%)
Officers	156 (8%)	12 (1%)
Race		
White	1,591 (87%)	757 (87%)
Black	265 (14%)	115 (13%)
Education: Years		
7	15 (1%)	4 (1%)
8	56 (3%)	23 (3%)
9	82 (8%)	41 (5%)
10	198 (11%)	78 (9%)
11	228 (12%)	83 (10%)
12	792 (43%)	369 (42%)
13	210 (11%)	115 (13%)
14	130 (7%)	63 (7%)
15	36 (2%)	18 (2%)
16 and more	104 (6%)	79 (8%)
Branch		
Infantry	1,005 (54%)	196 (22%)
Artillery	102 (5%)	117 (13%)
Aviation	129 (7%)	33 (4%)
Cavalry	326 (18%)	79 (9%)
Engineers	97 (5%)	84 (10%)
Transportation	36 (2%)	53 (6%)
Medical	47 (3%)	60 (7%)
Others	80 (4%)	161 (18%)